



PATENT ABSTRACTS OF JAPAN

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(21) Application number: 2002225170

(71) Applicant: OTICS CORP

(22) Date of filing: 01.08.02

(72) Inventor: SUZUKI TOMOJI

(54) DEVICE FOR PUNCHING SHAFT HOLE IN
ROCKER ARM

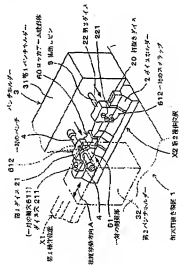
(51)

(57) Abstract:

PROBLEM TO BE SOLVED: To provide a device for punching a shaft hole in a rocker arm for improving the productivity.

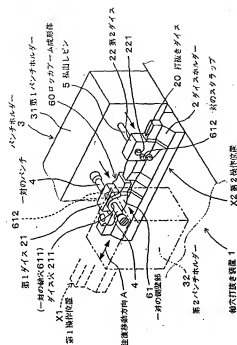
SOLUTION: A shaft hole punching device 1 of a rocker arm 6 comprises a die holder 2 having a first die 21 and a second die 22 and a punch holder 3 in which a pair of punches 4 to punch a pair of shaft holes 611 and a clearing pin 5 to clear a pair of scraps 612 from die holes 211 and 221 are disposed in an advancing/retracting manner. The die holder 2 is reciprocated with respect to the punch holder 3 between a first operational position X1 and a second operational position X2. At the operational positions X1 and X2, the pair of shaft holes 611 are punched in a rocker arm forming body 60 by the pair of punches 4 at one operational position, and the previously discharged pair of scraps 612 are cleared by the clearing pin 5.

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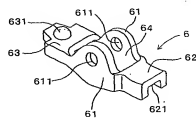
【図 1】

(図 1)



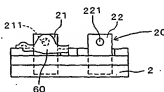
【図 2】

(図 2)



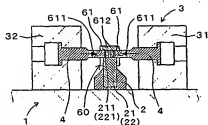
【図 3】

(図 3)



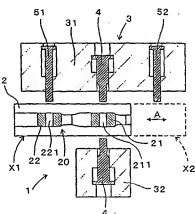
【図 4】

(図 4)



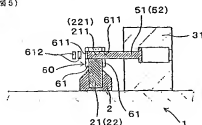
【図 6】

(図 6)



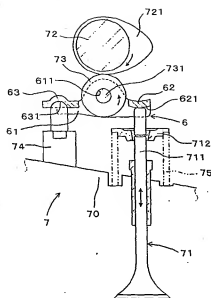
【図 5】

(図 5)



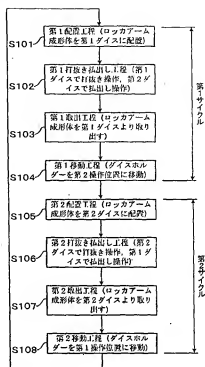
【図 7】

(図 7)



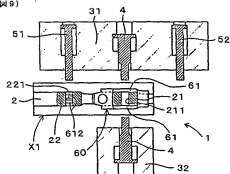
【図 8】

(図 8)



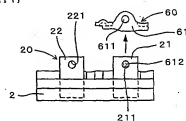
【図 9】

(図 9)



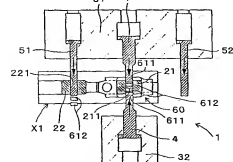
【図 11】

(図 11)



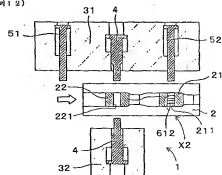
【図 10】

(図 10)



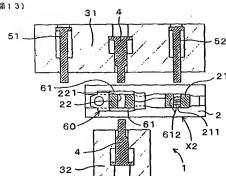
【図 12】

(図 12)



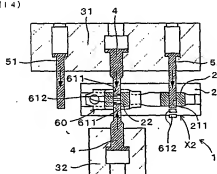
【図13】

(図13)



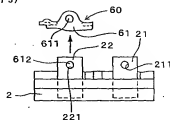
【図14】

(図14)



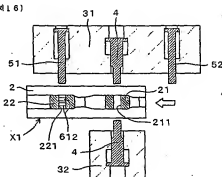
【図15】

(図15)



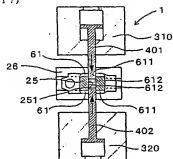
【図16】

(図16)



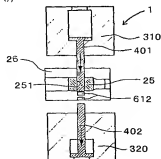
【図17】

(図17)



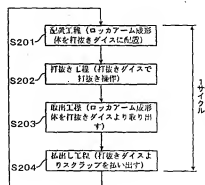
【図18】

(図18)

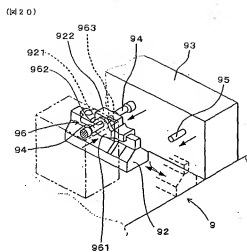


【図19】

(図19)



【図 20】



【図 21】

(図 21)

